

A NEW SPECIES OF *OEDIPINA*
(AMPHIBIA: CAUDATA: PLETHODONTIDAE) FROM
NORTHERN HONDURAS

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Abstract.—A new species of *Oedipina* from a cloud forest locality in northern Honduras is described and illustrated. The new species, *O. gephyra*, shows several morphological characteristics that bridge those of the two species groups of *Oedipina* recognized in the most recent revision of the genus. However, based on derived features such as the uniform dorsal coloration, short limbs, small feet, and long tail, the new species fits more readily into the *uniformis* group than the *parvipes* group.

Two species of *Oedipina* (*cyclocauda* Taylor 1952 and *stuarti* Brame 1968) have heretofore been recorded from Honduras (Brame 1968, Meyer & Wilson 1971). Recently, we collected salamanders of this genus from a single hardwood cloud forest locality in the western portion of the Cordillera Nombre de Dios in northern Honduras. An examination of these specimens demonstrated that the population represents an undescribed species.

Methods

All measurements are in millimeters, made to the nearest tenth with dial calipers with the aid of a dissecting microscope. Measurements taken, method of expressing ratios, and the way of counting costal groove numbers follow the methods of Brame (1968). Abbreviations used are SVL (snout vent length [=standard length of Brame]), MVZ (Museum of Vertebrate Zoology, University of California at Berkeley), and USNM (National Museum of Natural History). An X-ray of the holotype of the new species (USNM 316535) confirmed the number of trunk vertebrae. Maxillary and vomerine tooth row counts are both sides summed. Comparative data for the other species of *Oedipina* were taken from Brame (1968) and Brame & Duellman (1970),

however, data for *O. cyclocauda* were supplemented by those from the following recently collected Honduran specimens: ATLANTIDA: mountains behind La Ceiba, 260 m elev., USNM 316539. YORO: 6.6 km S Yoro, ca. 1000 m elev., MVZ 171078; 32.0 km W Yoro, MVZ 167772.

Oedipina gephyra, new species

Fig. 1

Holotype.—USNM 316535, an adult female, from 2.5 airline km NNE La Fortuna (15°26'N, 87°18'W), 1690 m elev., Cordillera Nombre de Dios, Departamento de Yoro, Honduras, collected 14 Aug 1991 by James R. McCranie, Kenneth L. Williams, and Larry David Wilson. Original number LDW 9597.

Paratypes.—USNM 316536–37, adult females and USNM 316538, adult male, collected 14–16 Aug 1991 at the type locality, 1690–1810 m.

Diagnosis.—*Oedipina gephyra* can be distinguished from all other species of *Oedipina* by the following combination of characteristics: 17 or 18 costal grooves per side; 18 or 19 trunk vertebrae; 10–11 costal folds not covered by adpressed limbs; adult SVL 52.3–57.8 (\bar{X} = 55.6); feet small, adult hind foot width 1.4–1.6 (\bar{X} = 1.5), SVL/hind foot



Fig. 1. *Oedipina gephyra*, new species, holotype, USNM 316535, SVL 56.7 mm.

width 34.9–39.6 (\bar{X} = 37.1); feet extensively webbed (Fig. 2); coloration uniform blackish-brown with tiny iridophores present on all surfaces.

Description of holotype.—Adult female with SVL of 56.7. Snout bluntly rounded in dorsal aspect and in profile; head width 5.4; SVL/head width 10.50; head length 8.1; SVL/head length 7.00; nostrils small, situated near tip of snout; distinct nasolabial groove extending from lower-posterior margin of each nostril to the lip; labial protuberances absent; canthus rostralis moderately arched; eyes not protuberant, not visible beyond margin of jaw when viewed from below; suborbital groove distinct; postorbital groove shallow, extending posteriorly from eye before turning sharply ventrally to connect with the gular fold, another branch proceeding sharply ventrally just posterior to mandible, extending irregularly across throat anterior to gular fold;

no dermal glands on head or body; 43 maxillary teeth, extending posteriorly to a point two-thirds distance through length of orbit; two premaxillary teeth, located posterior to lip; 22 vomerine teeth, in long, single, arched series, extending beyond outer edge of internal nares; axilla-groin length 37.3; 17 costal grooves per side; 18 trunk vertebrae; tail length 123.0; SVL/tail length 0.46; tail thick, nearly round at base, somewhat laterally compressed for last half of its length, barely constricted at base; tail width 3.6; SVL/tail width 15.75; tail depth 3.7; SVL/tail depth 15.32; postiliac gland round, prominent; limbs short, 11 costal folds not covered when limbs adpressed to sides of trunk; hindlimb length 9.4; SVL/hindlimb length 6.03; hind foot width 1.5; SVL/hind foot width 37.80; digits one and two and three and four on forelimbs fused and digits one and two and four and five on hindlimbs fused, rest of digits on both fore- and hind-

limbs fully webbed; digits on forelimbs in order of decreasing length 3-2-4-1, those on hindlimbs 3-4-2-5-1.

Coloration in life: Head, body, and limbs blackish-brown throughout; tail black on all surfaces; tiny iridophores (visible under magnification) present on all surfaces.

Variation.—Variation in morphology and coloration of the paratypes is minimal. The premaxillary teeth pierce the lip, labial protuberances are weakly developed, and a mental gland is slightly indicated in the adult male (USNM 316538). There are 17 costal grooves per side in two and 18 in one (USNM 316537). Both females have 11 costal folds not covered by the adpressed limbs, whereas the male has 10. Digits four and five on the hindlimbs of USNM 316538 are not fused. Other variation in the entire series (including the holotype) is as follows (characteristics for the male separated by a comma from that of the females; means in parenthesis): SVL 55.5–57.8 (56.7), 52.3; axilla-groin length 35.6–38.6 (37.2), 33.8; head width 5.2–5.5 (5.4), 5.4; SVL/head width 10.50–10.67 (10.56), 9.69; head length 8.1–8.4 (8.2), 8.4; SVL/head length 6.61–7.05 (6.89), 6.23; tail length 112.0–129.0 (121.3), 115.0; SVL/tail length 0.45–0.50 (0.47), 0.45; tail width 3.4–3.8 (3.6), 3.5; SVL/tail width 15.21–16.32 (15.76), 14.94; tail depth 3.4–3.7 (3.6), 3.2; SVL/tail depth 15.21–16.32 (15.62), 16.34; hind foot width 1.4–1.6 (1.5), 1.5; SVL/hind foot width 36.13–39.64 (37.86), 34.87; hindlimb length 7.6–9.4 (8.6), 8.4; SVL/hindlimb length 6.03–7.30 (6.66), 6.23; maxillary teeth 43–54 (49.0), 48; vomerine teeth 16–22 (18.7), 18; premaxillary teeth two in all.

Natural history notes.—*Oedipina gephyra* was collected from inside rotten logs and stumps and underneath a plank within hardwood cloud forest (Lower Montane Wet Forest formation of Holdridge 1967) from 1690 to 1810 m elev. Several specimens of another salamander, *Nototriton barbouri* (Schmidt 1936), were also found inside rotten logs at the type locality while another

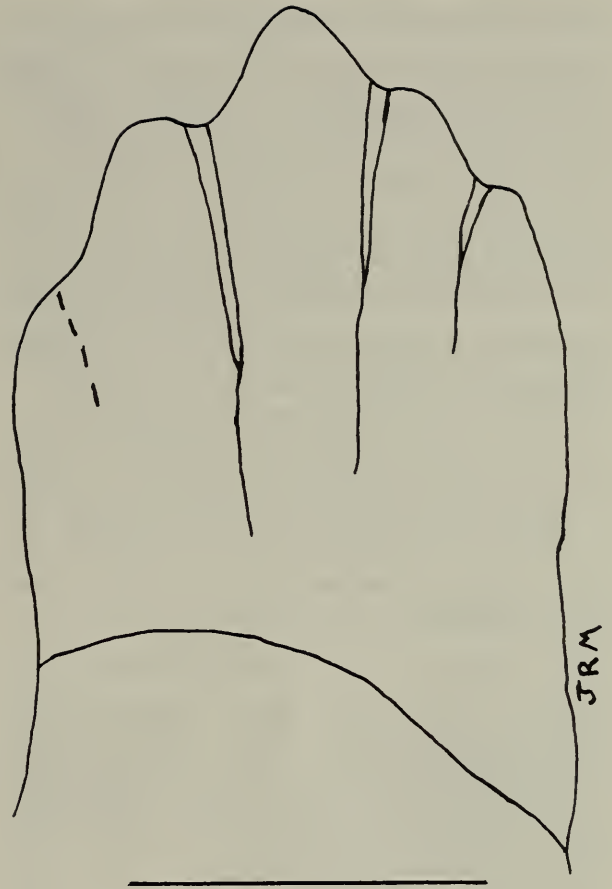


Fig. 2. Right hind foot of a paratype of *Oedipina gephyra* (USNM 316538). Line equals 1.0 mm.

salamander, *Bolitoglossa conanti* McCranie & Wilson 1993, was common in arboreal situations.

Comparisons.—Brame (1968) recognized two species groups of *Oedipina*, the *parvipes* group with four species and the *uniformis* group with 11 species and Brame & Duellman (1970) described an additional species belonging to the *uniformis* group. *Oedipina gephyra* shows several characteristics distinctive of each group, and therefore cannot be easily placed in either group. *Oedipina gephyra* agrees with the *parvipes* group and can be distinguished from each species in the *uniformis* group by having 17 or 18 costal grooves per side, 18 or 19 trunk vertebrae, and extensively webbed feet (19–22 costal grooves per side, 20–23 trunk vertebrae, feet usually not extensively webbed in the *uniformis* group). On the other hand, *O. gephyra* resembles the *uniformis* group species and can be distinguished from those

in the *parvipes* group by lacking a white face mask and large whitish markings over much of the dorsal surfaces, in having relatively short limbs with 10–11 costal folds not covered by the adpressed limbs, and in having relatively narrow feet with the hind foot width 1.4–1.6 mm (dorsal surfaces with large whitish spots or patches and usually a white face mask, 6–10 costal folds not covered by adpressed limbs, and hind foot width 1.6–3.8 mm in the *parvipes* group). Additionally, *O. gephyra* has a very long tail (SVL/tail length: 0.45–0.50) similar to most species in the *uniformis* group, whereas the *parvipes* group members have shorter tails (SVL/tail length 0.57–0.92 for the four species combined; data extrapolated from Brame 1968). Also, most members of the *uniformis* group have numerous maxillary teeth like *O. gephyra*, whereas most species in the *parvipes* group have zero to few maxillary teeth (Brame 1968).

According to Brame (1968), the two characters *O. gephyra* shares with members of the *parvipes* group (reduced number of trunk vertebrae and extensively webbed feet) are ancestral traits whereas, four of the five characters most similar to members of the *uniformis* group (uniform dorsal coloration, relatively short limbs, relatively small feet, and a relatively long tail) are derived states. The fifth character most similar to the *uniformis* group (number of maxillary teeth; although one species in the *parvipes* group, *O. complex* [Dunn 1924] also has numerous maxillary teeth) is an ancestral trait. Thus in all derived features, the new species is most similar to the members of the *uniformis* group. Therefore, we believe that the closest relationships of *O. gephyra* lie within the *uniformis* group.

In addition to the group characteristics discussed above, *O. gephyra* can be further distinguished from the two Honduran members of the *uniformis* group as follows: from *cyclocauda* by larger size (SVL 52.3–57.8 versus maximum of 50.2) and having longer limbs (SVL/hindlimb length 6.0–7.3,

\bar{X} = 6.5 versus 7.2–9.0, \bar{X} = 8.2) and from *stuarti* by having a slightly wider head (SVL/head width 9.7–10.7, \bar{X} = 10.3 versus 11.1–12.3, \bar{X} = 11.7, longer limbs (SVL/hindlimb length 6.0–7.3, \bar{X} = 6.5 versus 8.7–9.5, \bar{X} = 9.1), narrower feet (SVL/hind foot width 34.9–39.6, \bar{X} = 37.1 versus 30.6–30.8, \bar{X} = 30.7), and in lacking dermal glands (dermal glands numerous on head and dorsum in *stuarti*). Three species in the *O. uniformis* group (*collaris* [Stejneger 1907], *poelzi* Brame 1968, and *pseudouniformis* Brame 1968) are like *O. gephyra* in having long limbs compared to the remaining species in the group. *Oedipina gephyra* can be distinguished from each of these species, in addition to the number of trunk vertebrae and amount of webbing on the feet, as follows: from *collaris* by size (52.3–57.8, \bar{X} = 55.6 versus 57.7–77.1, \bar{X} = 69.2), snout shape (bluntly rounded versus elongated), head width (SVL/head width 9.7–10.7, \bar{X} = 10.3 versus 9.1–9.9, \bar{X} = 9.3), and maxillary tooth number (43–54, \bar{X} = 48.8 versus 80–98, \bar{X} = 87.5); from *poelzi* by coloration (uniform blackish-brown versus broad brownish dorsal band bordered with a cream or yellowish-white thin lateral stripe), head width (SVL/head width 9.7–10.7, \bar{X} = 10.3 versus 5.1–6.7, \bar{X} = 6.1), and hind foot width (SVL/foot width 34.9–39.6, \bar{X} = 37.1 versus 25.0–28.9, \bar{X} = 26.5); from *pseudouniformis* by head width (SVL/head width 9.7–10.7, \bar{X} = 10.3 versus 8.7–9.7, \bar{X} = 9.3) and hind foot width (SVL/foot width 34.9–39.6, \bar{X} = 37.1 versus 30.2–32.1, \bar{X} = 31.4).

Etymology.—The word *gephyra* is transliterated from Greek (meaning bridge) and refers to the species showing several morphological characteristics that bridge the two species groups recognized by Brame (1968) in the most recent revision of the genus.

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